

**Abstract**

The present invention relates generally to novel methods of producing transgenic chickens that generate antibodies or immunoglobulin polypeptides in whites of eggs. More specifically, one embodiment of the present invention relates to methods of inserting immunoglobulin-encoding transgenes into avian sperm cells for transfer to ova to generate transgenic zygotes. The transgenes may include at least two immunoglobulin-encoding nucleic acid sequences and an internal ribosome entry site (IRES) that allow the immunoglobulin polypeptides to be expressed by chicken cells and hence in egg whites.